### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

# (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 6 May 2005 (06.05.2005)

**PCT** 

## (10) International Publication Number WO 2005/041607 A1

(51) International Patent Classification7:

H04Q 7/38

(21) International Application Number:

PCT/EP2004/052010

(22) International Filing Date:

2 September 2004 (02.09.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

0324520.6

20 October 2003 (20.10.2003) GI

- (71) Applicant (for all designated States except US): MO-TOROLA INC [US/US]; 1303 E.Algonquin Road, Schaumburg, Illinois 60196 (US).
- (71) Applicant (for BW only): MOTOROLA LIMITED [GB/GB]; Jays Close, Viables Industrial Estate, Basingstoke, Hampshire RG22 4DP (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): DILLON, Matthew [GB/GB]; The Diary House, Buckland, Near Faringdon Oxfordshire SN7 8QR (GB).

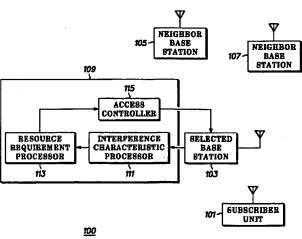
- (74) Agent: JEPSEN, René, Pihl; Eltima Consulting, Shaftsbury Centre, Percy Street, Rodbourne, Swindon SN2 2AZ (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, 7W
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Published:

with international search report

[Continued on next page]

(54) Title: AN APPARATUS AND METHOD OF RADIO ACCESS MANAGEMENT FOR A RADIO COMMUNICATION SYSTEM



(57) Abstract: The invention relates to access management in a radio communication system. A subscriber unit (101) transmits an access message to a base station (103). A Radio Access Controller (RNC) (109) receives information of the access request. The RNC (109) comprises an interference characteristic processor (111) which determines an interference characteristic associated with the subscriber unit (101). The interference characteristic may include an inter-cell interference factor and an intra-cell orthogonality factor determined as a function of the distance between the base station and the subscriber unit and/or based on subscriber unit measurements of pilot signals from the selected base station (103) and neighbouring base stations (105, 107). The interference characteristic processor (111) is coupled to a resource requirement processor (113) which determines a resource requirement for achieving a desired signal to interference ratio for the requested service in response to the interference characteristic. The RNC (109) further comprises an access controller (115) which accepts or rejects the request in respons to the determined resource requirement.



### WO 2005/041607 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.